CLASSIFICATION OF SUBJECT MATTER PC 7 B23K26/10 B23K B23K26/38 B23K26/42 B42D15/10 B26D7/18 B65H29/02 B23K26/08 B23011/00 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) IPC 7 B42D B26D B65H B26F B23K Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages Category ° Relevant to claim No. X PATENT ABSTRACTS OF JAPAN 1,5,6,8, vol. 1995, no. 11, 26 December 1995 (1995-12-26) & JP 7 214359 A (AMADA CO LTD), 15 August 1995 (1995-08-15) Y abstract 7,12-14Y WO 95/10420 A (LEONHARD KURZ GMBH & CO ; 7,14 J. HERMANN ET AL) 20 April 1995 (1995-04-20) cited in the application the whole document Further documents are listed in the continuation of box C. X Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention *E* earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another cliation or other special reason (as specified) document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled "O" document referring to an oral disclosure, use, exhibition or document published prior to the international filing date but later than the priority date claimed in the art. "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the International search report 25 June 2004 05/07/2004 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 Jeggy, T

Category •	citation of document, with indication, where appropriate, of the relevant passages	
	passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 06, 30 June 1997 (1997-06-30) & JP 9 029476 A (DENSO CORP), 4 February 1997 (1997-02-04) abstract	12,13
Х	EP 1 184 127 A (LANGE CARL INGOLF)	1,6
Υ	6 March 2002 (2002-03-06) paragraph '0017!; figure 1	4,8,12,
Y	US 5 348 285 A (P. HUESER) 20 September 1994 (1994-09-20) column 4, line 21 - column 5, line 3; figures 1,2	13 4,8,12, 13
x	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) & JP 10 113787 A (AMADA CO LTD), 6 May 1998 (1998-05-06)	1,5,6
Y	abstract	2,8,9
Y	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 11, 26 December 1995 (1995-12-26) & JP 7 197374 A (OFIC CO; others: 01),	2,8,9
(1 August 1995 (1995-08-01) abstract	
	FR 2 586 959 A (J. DAVID) 13 March 1987 (1987-03-13) the whole document	1,5,6
(EP 0 927 597 A (RAINER SRL) 7 July 1999 (1999-07-07) paragraphs '0009! - '0012!, '0016!; figures	1,5,6,8, 11-13
,	PATENT ABSTRACTS OF JAPAN vol. 0121, no. 05 (M-681), 6 April 1988 (1988-04-06) & JP 62 234688 A (YAMAZAKI MAZAK CORP), 14 October 1987 (1987-10-14) abstract	1,5,6, 11-13
	DE 41 31 617 A (MEINEN TOMAS) 30 April 1992 (1992-04-30)	12,13

nformation on patent family members

i /IB2004/001273

						/162004/0012/3	
	ent document in search report		Publication date		Patent family member(s)		Publication date
JP 7	7214359	Α	15-08-1995	JP	2921727	B2	19-07-1999
WO S	9510420	Α	20-04-1995	DE	4334847		20-04-1995
				ΑT	155742		15-08-1997
				AU	681909		11-09-1997
				AU	7738994		04-05-1995
				BR	9407796		18-03-1997
				CA	2163528	A1	20-04-1995
				CN	1131930	Α,Β	25-09-1996
				MO	9510420		20-04-1995
	•			DE	59403479		28-08-1997
				EP	0723501		31-07-1996
				ES	2106562		01-11-1997
				HK HU	1001586		26-06-1998
				HU JP	75148		28-04-1997
					9503711		15-04-1997
				RU US	2111864		27-05-1998
				US .	6428051		06-08-2002
					. 2002030360 	—————	14-03-2002
JP 9	9029476 - 	A 	04-02-1997	JP 	3518079 	B2	12-04-2004
EP 1	l 184127 	A	06-03-2002	EP	1184127	A1	06-03-2002
US 5	348285	Α	20-09-1994	DE	4201411	A1	22-07-1993
				ES	2096508		01-03-1997
				JP 	5330715	Α	14-12-1993
JP 1	0113787	Α	06-05-1998	NONE			
JP 7	7197374	Α	01-08-1995	NONE			+
FR 2	2586959	Α	13-03-1987	FR	2586959	A1	13-03-1987
EP 0	927597	Α	07-07-1999	EP	0927597	A1	07-07-1999
JP 6	 52234688	 А	 14-10-1987	NONE	# *** *** *** *** *** *** *** *** ***		